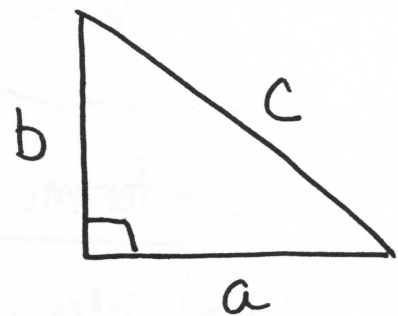


Geometry 2nd Semester NGA Review

Part 1 - Pythagorean Theorem

- Used only in right triangles
- Used if you are given two sides and you want to find the measure of the third side

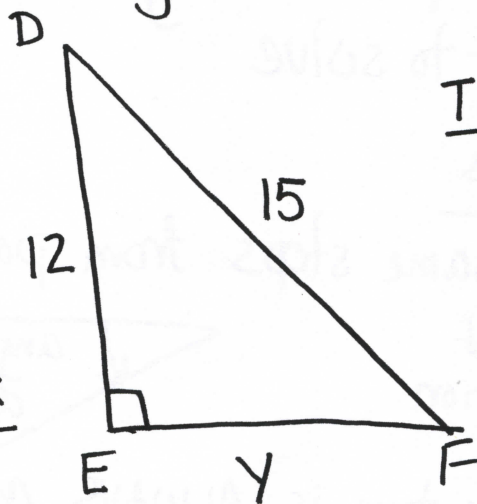
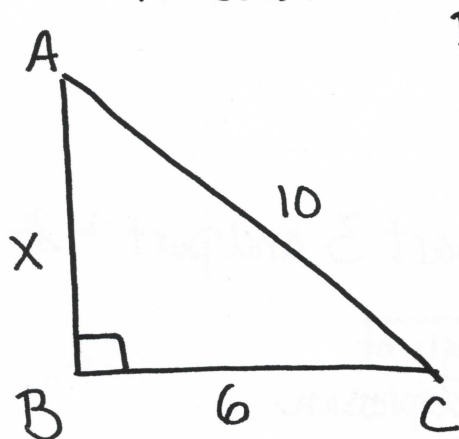


- a and b are the legs, c is the hypotenuse

$$a^2 + b^2 = c^2$$

Part 2 - Similar Triangles

- You can use proportions to solve for missing sides of similar triangles
- Set up proportion by matching corresponding sides
- Once the proportion is set up, use cross multiplying to solve for missing side



$$\triangle ABC \sim \triangle DEF$$

To Solve for x

$$\frac{x}{12} = \frac{10}{15}$$

$$15x = 120$$

$$\boxed{x = 8}$$

To Solve for y

$$\frac{6}{y} = \frac{10}{15}$$

$$10y = 90$$

$$\boxed{y = 9}$$

Trigonometry

$$\sin \angle = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos \angle = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan \angle = \frac{\text{opposite}}{\text{adjacent}}$$

Part 3 - Solve for missing Side Using Trig

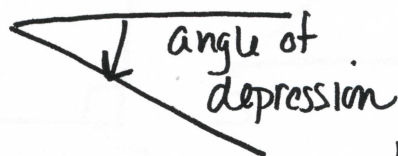
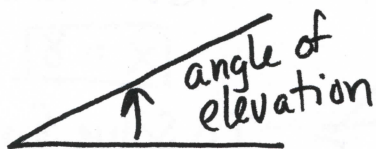
- Label sides with respect to given angle (opposite, adjacent, hypot.)
- Decide what trig function to use
- Set up trig equation
- Get variable by itself
- Use calculator to solve

Part 4 - Solve for missing angle using Trig

- Label sides with respect to given angle (opposite, adjacent, hypot.)
- Decide what trig function to use
- Set up trig equation
- Get variable by itself using \sin^{-1} , \cos^{-1} , \tan^{-1}
- Use calculator to solve

Part 5 - Word Problems

* Follow the same steps from part 3 and part 4 *



* Angle of elevation is ALWAYS congruent to Angle of Depression *